Complete Summary

GUIDELINE TITLE

American Gastroenterological Association medical position statement on obesity.

BIBLIOGRAPHIC SOURCE(S)

American Gastroenterological Association medical position statement on obesity. Gastroenterology 2002 Sep;123(3):879-81. [1 reference] PubMed

COMPLETE SUMMARY CONTENT

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SCOPE

DISEASE/CONDITION(S)

- Obesity-related medical complications (Risk Assessment)
- Obesity (Management; Treatment)

GUIDELINE CATEGORY

Evaluation
Management
Risk Assessment
Treatment

CLINICAL SPECIALTY

Family Practice
Gastroenterology
Internal Medicine
Nutrition

INTENDED USERS

Physicians

GUIDELINE OBJECTIVE(S)

To provide gastroenterologists with a comprehensive evaluation of the important clinical issues in adult obesity, including prevalence, etiology, physiology, pathophysiology, medical complications, metabolic and medical effects of weight loss, treatment options, and treatment guidelines

TARGET POPULATION

Obese adults

INTERVENTIONS AND PRACTICES CONSIDERED

Risk Assessment for Obesity-Related Medical Complications

1. Medical evaluation, including a careful history, physical examination (including determination of body mass index [BMI]), and laboratory tests to identify eating and activity behaviors, weight history and previous weight loss attempts, obesity-related health risks, and current obesity-related medical illnesses

Management/Treatment

1. Assessment of weight loss readiness
2. Determination of therapeutic goals, considering patient readiness for obesity treatment and obesity-related health risk
3. Dietary interventions (e.g., reduction of calories through strategies, such as portion-controlled servings, prepackaged, prepared meals and liquid formula meal replacements)
4. Physical activity at varying intensities
5. Behavior modification (e.g., self-monitoring activities, consultation with local professionals, group behavior therapy)
6. Pharmacotherapy (e.g., sibutramine hydrochloride [Meridia], and orlistat [Xenical])
7. Bariatric surgery
    - Procedures primarily for gastric restriction (e.g., gastric bypass [Roux-en-Y gastric bypass, gastroplasty (VBG), gastric banding])
    - Procedures primarily for maldigestion/malabsorption (e.g., biliopancreatic diversion, biliopancreatic diversion with duodenal switch, distal gastric bypass)

Note: Guideline developers considered, but did not recommend, the following interventions:

1. Low-carbohydrate diets
2. Drugs only approved for short-term treatment of obesity by the United States Food and Drug Administration (USFDA) [methamphetamine hydrochloride (Desoxyn); benzphetamine hydrochloride (Didrex); phendimetrazine tartrate (Bontril, Plegine, Prelu-2, X-Trozine), phentermine hydrochloride (Adipex-P,

Fastin, Oby-trim), resin (Ionamin), diethylpropion hydrochloride (Tenuate, Tenuate Dospan), mazindol (Sanorex, Mazanor)].
3. Jejunoileal bypass (JIB)
4. Intragastric balloon therapy

MAJOR OUTCOMES CONSIDERED

- Prevalence of obesity
- Body mass index (BMI)-associated disease risk
- Relative risk of death related to increased body mass index
- Weight loss, prevention of weight gain, slowing the rate of future weight gain, obesity-associated medical complications, quality of life and function
- Risks and adverse effects of weight loss treatment strategies

METHODOLOGY

METHODS USED TO COLLECT/SELECT EVIDENCE

Hand-searches of Published Literature (Primary Sources)
Hand-searches of Published Literature (Secondary Sources)
Searches of Electronic Databases

DESCRIPTION OF METHODS USED TO COLLECT/SELECT THE EVIDENCE

The information reviewed by the authors was identified by a literature search of Index Medicus between 1966 (volume 1) and January 2002, a hand search of individual journals that focus on obesity, and identifying papers from the reference lists of research and review articles.

NUMBER OF SOURCE DOCUMENTS

Not stated

METHODS USED TO ASSESS THE QUALITY AND STRENGTH OF THE EVIDENCE

Subjective Review

RATING SCHEME FOR THE STRENGTH OF THE EVIDENCE

Not applicable

METHODS USED TO ANALYZE THE EVIDENCE

Review of Published Meta-Analyses
Systematic Review with Evidence Tables

DESCRIPTION OF THE METHODS USED TO ANALYZE THE EVIDENCE

Not stated

METHODS USED TO FORMULATE THE RECOMMENDATIONS

Not stated

RATING SCHEME FOR THE STRENGTH OF THE RECOMMENDATIONS

Not applicable

COST ANALYSIS

A formal cost analysis was not performed and published cost analyses were not reviewed.

METHOD OF GUIDELINE VALIDATION

Internal Peer Review

DESCRIPTION OF METHOD OF GUIDELINE VALIDATION

The American Gastroenterological Association (AGA) Clinical Practice Committee approved this guideline on March 3, 2002 and the American Gastroenterological Association Governing Board approved it on May 19, 2002.

RECOMMENDATIONS

MAJOR RECOMMENDATIONS

Overview

The goal of weight loss therapy is to improve or eliminate obesity comorbidities and decrease the risk of future obesity-related medical complications. Therefore, obesity-related health risks, the presence of other disease risk factors, and coexisting obesity complications should be used to help determine the need for obesity therapy and the aggressiveness of the treatment approach. The key principle of obesity therapy is to eat fewer calories than are expended in order to consume endogenous fat stores as fuel. An effective treatment plan must consider the patient's willingness to undergo therapy, ability to comply with specific treatments, access to skilled caregivers, and ability to pay for specialized services. Weight loss therapy is not recommended for patients with a body mass index (BMI) <25 kg/m^2. However, providing recommendations for a healthy lifestyle, including dietary and physical activity modification, is reasonable for lean persons who have, or are at increased risk for, future adiposity-related diseases.

Treatment Guidelines

The following stepwise approach for treating obesity is based on the recommendations made by the National Institutes of Health's Expert Panel on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults.

1. Medical evaluation. A medical evaluation is needed to identify patients who either have, or are at risk for, obesity-related medical complications. This assessment should include a careful history, physical examination (including determination of BMI), and laboratory tests to identify eating and activity behaviors, weight history and previous weight loss attempts, obesity-related health risks, and current obesity-related medical illnesses.
2. Assessment of weight loss readiness. A determination of how much effort the patient is able and willing to make to lose weight is important for guiding treatment options. Several questions should be answered: (1) What is the patient's motivation for losing weight? (2) Are there any major stresses that will make it difficult to focus on weight control? (3) Does the patient have any psychiatric illnesses, such as severe depression, substance abuse, or binge eating disorder, which will derail weight loss efforts? and (4) Can the patient devote a minimal amount of time (e.g., 15 to 30 minutes per day for the next 6 months) that is needed for a serious weight loss effort?
3. Treatment. If the patient is not ready for obesity treatment, the therapeutic goal should be to prevent weight gain and explore barriers to weight reduction. If the patient is ready to lose weight, a structured, goal-oriented treatment plan should be instituted. The goals and expectations should be realistic and carefully discussed, and provisions made for frequent follow-up and long-term contact. The components of the treatment program depend on physician expertise and the availability of support from other professionals. In general, the aggressiveness of the treatment program is related to obesity-related health risk. Alterations in dietary intake and physical activity, supported by behavior modification therapy, are the cornerstones of treatment for all overweight and obese patients. Pharmacotherapy and bariatric surgery can be useful additional treatment options in properly selected patients.

Principles of Obesity Therapy

The therapeutic tools for weight management include dietary intervention, physical activity, behavior modification, pharmacotherapy, and bariatric surgery.

Dietary Intervention

Overweight persons (BMI of 25.0–29.9 kg/m^2) with 2 or more cardiovascular risk factors, and those with class I obesity (BMI of 30.0–34.9 kg/m^2), should decrease their energy intake by approximately 500 kcal/d. This energy deficit will result in approximately a 1 pound (0.45 kg) weight loss per week and about a 10% reduction of initial weight at 6 months. Persons with class II (BMI of 35.0–39.9 kg/m^2) or III (BMI $\geq$40 kg/m^2) obesity should aim for a more aggressive energy deficit of 500–1000 kcal/d, which will produce approximately a 1- to 2-pound weight loss per week and approximately a 10% weight loss at 6 months.

Several dietary strategies can be used to help patients restrict energy intake. The clinical effectiveness of each approach has been demonstrated in randomized controlled trials. The use of portion-controlled servings can enhance weight loss because obese persons who consume a diet of self-selected table foods tend to underestimate their energy intake. Providing prepackaged, prepared meals and liquid formula meal replacements increases the likelihood that patients will be compliant with their prescribed energy intake. In addition, low-fat diets help

obese patients lose weight. Several short-term studies (≤14 days) have found that energy intake is regulated by the weight of ingested food, rather than by energy content. Therefore, energy intake is inversely correlated with energy density, so consumption of a low-energy density diet can enhance compliance with a low-calorie diet. The energy density of a diet can be decreased by adding water to food, increasing the intake of high-water-content foods, such as fruits and vegetables, and by limiting the intake of high–energy-density foods, such as high-fat and dry (e.g., crackers and pretzels) foods.

Physical Activity

Physical activity alone is not an effective method for achieving initial weight loss. However, retrospective analyses of data from many weight loss studies suggest that increased physical activity causes long-term weight management and improved health. The amount of physical activity associated with successful weight maintenance is considerable: approximately 60 to 90 minutes per day of moderate-intensity activity (e.g., brisk walking) or 30 to 45 minutes per day of vigorous activity (e.g., fast bicycling or aerobics). Therefore, patients should be advised to increase physical activity slowly over time until the target goal is reached. Aerobic exercise has additional health benefits that are independent of weight loss itself. Increased fitness, determined by maximal oxygen consumption during exercise, is associated with a decreased risk of developing diabetes and dying from cardiovascular disease.

Behavior Modification

Behavior therapy should be included in any weight loss program to facilitate changes in eating and activity behaviors needed for successful weight loss. Gastroenterologists can incorporate the principles of behavior therapy within their clinical practice by: (1) helping patients develop realistic goals, (2) establishing an appropriate treatment plan to achieve small and incremental diet and activity goals, (3) encouraging self-monitoring (daily records of food intake and physical activity), (4) helping patients identify and solve problems that are barriers to weight loss, and (5) scheduling regular follow-up visits with office personnel to record weight, review food records, and provide support and encouragement.

It is often difficult for physicians to provide appropriate behavior modification therapy for obesity because of limitations in time and expertise. Therefore, the use of legitimate local professionals, including psychologists, counselors and dieticians, and self-help, commercial and hospital-based obesity treatment programs should be considered.

Group behavior therapy, when available, should be considered in patients who have not been able to lose weight with less aggressive treatment approaches. Prospective randomized trials have shown that obese patients treated by group behavior therapy lose ~0.5 kg/week, and ~9% of their initial weight in 20 to 26 weeks of treatment. Patients usually regain about 30% to 35% of their lost weight in the year following treatment. However, persons who maintain regular contact with their treatment providers have better success at achieving long-term weight management.

Pharmacotherapy

Overweight patients (BMI 27.0–29.9 kg/m^2) with comorbidities and obese patients (BMI $\geq$30 kg/m^2) are potential candidates for treatment with obesity medications. All patients receiving pharmacotherapy for obesity should also be involved in efforts to change eating and activity behaviors because data from both randomized and nonrandomized trials shows that pharmacotherapy alone is not as effective as pharmacotherapy given in conjunction with behavior modification therapy. Pharmacotherapy should not be used as a short-term treatment approach because patients who respond to drug therapy usually regain weight when therapy is stopped. Only 2 medications, sibutramine and orlistat, have been approved for long-term use by the United States Food and Drug Administration. Prospective randomized trials conducted for up to 2 years have shown that weight loss is greater with these agents than with placebo. However, the difference in weight loss between drug and placebo treatment groups is modest.

Bariatric Surgery

Surgical therapy is the most effective approach for achieving long-term weight loss. Patients with class III obesity (BMI $\geq$40 kg/m^2), or those with class II obesity (BMI 35.0–39.9 kg/m^2) and one or more severe obesity-related medical complications (e.g., hypertension, type 2 diabetes mellitus, heart failure, or sleep apnea), should be considered for surgery if they have been unable to achieve or maintain weight loss with conventional therapy, have acceptable operative risks, and are able to comply with long-term treatment and follow-up.

The type of surgical procedure depends primarily on the expertise and preference of the surgeon and the patient's BMI. Gastric bypass is the most commonly performed bariatric surgical procedure. Data from several prospective randomized controlled trials demonstrate that weight loss is greater with the gastric bypass procedure than with vertical-banded gastroplasty. On average, patients who have undergone gastric bypass lose two-thirds of their excess weight (one-third of initial weight) within the first 2 years after surgery and maintain a loss of approximately one-half of their excess weight for more than 10 years. Weight loss is similar after either laparoscopic or open gastric bypass, but the laparoscopic approach is associated with fewer postoperative complication, shorter hospital stay, and earlier return to functional life. Therefore, the laparoscopic approach is preferred in appropriate patients when it can be performed by an experienced surgeon. Malabsorptive procedures, such as biliopancreatic diversion with duodenal switch or long-limb gastric bypass, usually cause more weight loss (~three-fourths of excess weight) than generally observed after gastric bypass. Therefore, malabsorptive procedures should be considered as potential options for very obese patients (BMI >50 kg/m^2). However, the weight loss efficacy of malabsorptive and restrictive operations has never been compared in a prospective randomized trial.

CLINICAL ALGORITHM(S)

None provided

EVIDENCE SUPPORTING THE RECOMMENDATIONS

TYPE OF EVIDENCE SUPPORTING THE RECOMMENDATIONS

The type of supporting evidence is not specifically stated for each recommendation. The literature review accompanying the guideline provides comprehensive evaluation of the important clinical issues in adult obesity.

The stepwise approach for treating obesity is based on the recommendations made by the National Institutes of Health´s Expert Panel on the Identification, Evaluation, and Treatment of Overweight and Obesity in Adults.

BENEFITS/HARMS OF IMPLEMENTING THE GUIDELINE RECOMMENDATIONS

POTENTIAL BENEFITS

- Appropriate management/treatment of obesity in adults
- Decreased prevalence of obesity
- Weight loss in adults and subsequent improvement in or elimination of obesity comorbidities, decrease in risk of future obesity-related medical complications, and improvement in quality of life and functioning

POTENTIAL HARMS

Side Effects of Medications

- Sibutramine. The most common side effects associated with sibutramine therapy are dry mouth, headache, constipation, and insomnia, which are usually mild and transient. Sibutramine also causes a dose-related increase in blood pressure and heart rate that usually occurs in the first few weeks of treatment and lasts as long as the drug is taken.
- Orlistat. The most common side effects experienced with orlistat therapy are related to orlistat's action on gastrointestinal lipases. In 1- and 2-year trials, approximately 70% to 80% of subjects treated with orlistat experienced one or more gastrointestinal events (fatty/oily stool, increased defecation, oily spotting, soft stool, liquid stools, abdominal pain, fecal urgency, flatulence, flatus with discharge, fecal incontinence, oily evacuation) compared with approximately 50% to 60% of those treated with placebo. Long-term orlistat treatment can affect the homeostasis of certain fat-soluble vitamins. Also, orlistat can have medically significant effects on the absorption of lipophilic medications if both drugs are taken simultaneously. There is a theoretical risk that long-term orlistat therapy may increase the risk of specific gastrointestinal diseases, such as gallstones and colon cancer.

Complications Associated with All Bariatric Surgical Procedures

- Mortality. Perioperative mortality rate after open obesity surgical procedures reported in studies containing large numbers of patients is usually <1.5%. Approximately 75% of the deaths are caused by anastomotic leaks and peritonitis and 25% by pulmonary embolism.
- Anastomotic leak with peritonitis. Symptoms of a leak include left shoulder pain, tenesmus and urinary urgency, increased back pain, and a feeling of "impending doom." Signs include fever and tachycardia. The leak rate after open gastric bypass is approximately 2.5% in most series, and the mortality risk from this complication is approximately 0.3%.

- Pulmonary embolism
- Gallstones. Gallstones will form in approximately one third of patients within 6 months after a gastric restrictive procedure; the incidence may be higher in patients who have had a malabsorptive procedure.
- Incisional hernia
- Wound infections

Complications Associated with Specific Bariatric Surgical Procedures

- Gastric bypass procedure (GBP). Complications specifically related to the GBP include early complications of hemorrhage, gastrointestinal leak leading to peritonitis, splenic injury, wound infection, and late complications of stomal stenosis, marginal ulcers, staple line disruption, dilation of the bypassed stomach, internal hernias, specific nutrient deficiencies, and dumping syndrome.
- Gastroplasty. Complications specifically related to gastroplasty include stomal stenosis, staple line disruption, erosion of the band, and increased gastroesophageal reflux. Stomal stenosis prevents adequate nutrient intake and causes dehydration and vitamin deficiencies. Staple line disruption, which can occur in up to 35% of patients, leads to rapid weight regain. In some patients, gastroesophageal reflux can be a severe and serious complication, requiring conversion to a gastric bypass. In contrast to the GBP, gastroplasty does not cause dumping syndrome or iron or vitamin B_{12} deficiency.
- Laparoscopically inserted adjustable silicone gastric band (LASGB). Complications of the laparoscopically inserted adjustable silicone gastric band are less common and less severe than those that occur with either the gastric bypass procedure or gastroplasty. These complications include band slippage, esophageal dilatation, erosion of the band into the stomach, band or port infections, and balloon or system leaks that lead to inadequate weight loss. Band slippage occurs when the posterior stomach wall herniates through the band, which can cause gastric obstruction and require surgical revision. Band placement at the gastroesophageal junction can cause esophageal dilatation and dysphagia. Loosening the band usually decreases the dilatation but sometimes band removal is required; in some patients, the band erodes into the stomach, which also requires surgical removal.
- Biliopancreatic diversion. This procedure causes more nutritional abnormalities (e.g., osteoporosis) and gastrointestinal complications (e.g., frequent, foul-smelling steatorrheic stools) than gastric restrictive procedures because of malabsorption of protein, fat, fat-soluble vitamins, iron, calcium, and vitamin B_{12}. The size of the gastric pouch is inversely correlated with the risk of protein deficiency, which can occur in 100% of patients when the pouch is only 30 mL in size.

Subgroups Most Likely to be Harmed:

- Patients who have sleep apnea or obesity hypoventilation syndrome have a higher mortality risk if they develop anastomotic leak with peritonitis.
- Patients who are extremely obese have an increased risk of pulmonary embolism after surgery.
- The risk of incisional hernia is markedly increased after any abdominal surgery in a severely obese patient compared with a lean patient. Overall, postoperative incisional hernia occurs in 15% to 25% of patients but the risk

is higher in patients with a prior incisional herniorrhaphy or patients with diabetes, obesity hypoventilation syndrome, or sleep apnea.
- Wound infections occur more commonly after any abdominal operation in severely obese than in lean patients, presumably because of the increased amount of deep subcutaneous fat.
- The incidence of gallstones may be higher in patients who have had a malabsorptive procedure.

CONTRAINDICATIONS

CONTRAINDICATIONS

The use of sibutramine is contraindicated in patients with poorly controlled hypertension.

QUALIFYING STATEMENTS

QUALIFYING STATEMENTS

The weight loss efficacy of malabsorptive and restrictive operations has never been compared in a prospective randomized trial.

IMPLEMENTATION OF THE GUIDELINE

DESCRIPTION OF IMPLEMENTATION STRATEGY

An implementation strategy was not provided.

INSTITUTE OF MEDICINE (IOM) NATIONAL HEALTHCARE QUALITY REPORT CATEGORIES

IOM CARE NEED

Getting Better
Living with Illness

IOM DOMAIN

Effectiveness
Patient-centeredness
Safety

IDENTIFYING INFORMATION AND AVAILABILITY

BIBLIOGRAPHIC SOURCE(S)

American Gastroenterological Association medical position statement on obesity. Gastroenterology 2002 Sep;123(3):879-81. [1 reference] PubMed

ADAPTATION

Not applicable: The guideline was not adapted from another source.

DATE RELEASED

2002 Sep

GUIDELINE DEVELOPER(S)

American Gastroenterological Association - Medical Specialty Society

SOURCE(S) OF FUNDING

American Gastroenterological Association

GUIDELINE COMMITTEE

American Gastroenterological Association Clinical Practice Committee

COMPOSITION OF GROUP THAT AUTHORED THE GUIDELINE

Not stated

FINANCIAL DISCLOSURES/CONFLICTS OF INTEREST

Dr. Klein has received honoraria for speaking engagements on obesity from Roche Laboratories and R. W. Johnson; is a member of the Obesity and Diabetes Educational Council, which is funded by an unrestricted educational grant provided by Roche Laboratories; and has received research support for clinical studies from Roche Laboratories, R.W. Johnson, DMV International, Regeneron Pharmaceuticals, Novartis Nutrition, and GlaxoSmithKline. These funds were used for participating in multicenter clinical research trials and for investigator-initiated research in obesity.

Dr. Wadden serves on the speakers' bureau for Abbott Laboratories and Roche Laboratories, which manufacture the weight-loss medications sibutramine and orlistat, respectively. He has received research support from Schering-Plough, GlaxoSmithKline, and Abbott Laboratories.

GUIDELINE STATUS

This is the current release of the guideline.

According to the guideline developer, the Clinical Practice Committee meets three times a year to review all American Gastroenterological Association (AGA) guidelines. This review includes new literature searches of electronic databases followed by expert committee review of new evidence that has emerged since the original publication date.

GUIDELINE AVAILABILITY

Electronic copies: Available from the American Gastroenterological Association (AGA) Gastroenterology journal Web site.

Print copies: Available from the American Gastroenterological Association, 4930 Del Ray Avenue, Bethesda, MD 20814.

AVAILABILITY OF COMPANION DOCUMENTS

The following is available:

- S. Klein, T. Wadden, H. J. Sugerman. AGA technical review on obesity. Gastroenterology. 2002 Sep;123(3):882-932.

Electronic copies: Available from the American Gastroenterological Association (AGA) Gastroenterology journal Web site.

Print copies: Available from the American Gastroenterological Association, 4930 Del Ray Avenue, Bethesda, MD 20814.

PATIENT RESOURCES

None available

NGC STATUS

This summary was completed by ECRI on January 14, 2003. It was verified by the guideline developer on February 27, 2003.

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